

Application No. 09/904,875

Please add new claims 7 and 8 as follows:

- B2
- 7. The device of claim 1, wherein the catalytic apparatus also has an oxidation function.--
- 8. The device of claim 5, wherein the particulate filter purifies NO<sub>x</sub> by reduction and has an oxidation function.--

### REMARKS

Claims 1-8 are pending. By this Amendment, claim 5 is amended to recite "which carries said catalyst for absorbing and reducing NO<sub>x</sub>". Dependent claims 7 and 8 are added. This Amendment overcomes Maaseidvaag.

Entry of the amendment is proper under 37 CFR §1.116 because the amendment: (a) place the application in condition for allowance (for all the reasons discussed herein); (b) do not raise any new issues requiring further search or consideration; and (c) place the application in better form for appeal, should an appeal be necessary. Accordingly, entry of the amendment is proper under 37 C.F.R. §1.116.

Applicants appreciate the courtesies extended to Applicants' representative, Mr. Paul Tsou, during the August 5 personal interview. The substance of the personal interview is incorporated in the remarks below.

The Office Action rejects claims 5 and 6 under 35 U.S.C. §102(e) over Maaseidvaag et al. (U.S. Patent No. 6,167,696). The Office Action asserts that Maaseidvaag discloses all the features recited in claim 5. However, as agreed during the personal interview, Maaseidvaag does not disclose or suggest a catalytic apparatus for purifying NO<sub>x</sub> arranged in the exhaust system upstream of a particulate filter, which carries said catalyst [of the particulate filter] for absorbing and reducing NO<sub>x</sub>, as recited in claim 5. As admitted by Maaseidvaag at col. 1, lines 15-16, the "ability of a three-way catalyst to removed NO<sub>x</sub> in the

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exhaust gas falls rapidly,...., when the air-fuel ratio of the exhaust gas becomes leaner."

Thus, Maaseidvaag does not disclose or suggest a catalytic apparatus upstream of the particulate filter that absorbs and reduces NO<sub>x</sub> when the air-fuel ratio is lean, as required by claim 5.

In view of the above, Maaseidvaag does not disclose or suggest all the features recited in claim 5, and claim 6 depending therefrom. Withdrawal of the rejection of claims 5 and 6 under 35 U.S.C. §102(e) is respectfully solicited.

The Office Action rejects claims 1-4 under 35 U.S.C. §103(a) over Takeshima et al. (U.S. Patent No. 5,473,890) in view of Maaseidvaag. This rejection is respectfully traversed.

The Office Action admits that Takeshima fails to disclose that NO<sub>x</sub> absorber can also function as a particulate filter, but asserts that Maaseidvaag supplies the subject matter lacking in Takeshima. However, Applicants respectfully submit that Takeshima does not disclose or suggest a catalytic converter upstream of a particulate filter which carries a catalyst for absorbing and reducing NO<sub>x</sub> which catalyst is also in the particulate filter, as required in claim 1.

As agreed during the personal interview, Takeshima is directed to a sulfur trap (which does not absorb NO<sub>x</sub>) that is upstream from a catalytic converter that absorbs NO<sub>x</sub>. Thus, Takeshima does not disclose or suggest the catalytic apparatus ... arranged in the exhaust system upstream of a particulate filter, which carries said catalyst for absorbing and reducing NO<sub>x</sub>, as recited in claim 1.

As already discussed above, Maaseidvaag also does not recite the lacking catalytic apparatus upstream of the particulate filter. Thus, Takeshima and Maaseidvaag, individually or in combination, would not have rendered obvious the subject matter recited in claim 1, and claims 2-4 depending therefrom. Withdrawal of the rejection of claims 1-4 under 35 U.S.C. §103 is respectfully solicited.

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The Office Action further rejects claims 1-4 under 35 U.S.C. §103 over Dou et al. (U.S. Patent Publication No. 2001/0035006) in view of Maaseidvaag.

The Office Action asserts that Dou "failed to disclose that the particulate filter and the NO<sub>x</sub> absorber can be combined into one single housing". However, as agreed during the personal interview, Applicants respectfully submit that Dou does not disclose or suggest a catalytic apparatus for purifying NO<sub>x</sub> arranged in the exhaust system upstream of said particulate filter, which carries said catalyst for absorbing and reducing NO<sub>x</sub>, as recited in claim 1.

Dou, like Takeshima, discloses a sulfur trap upstream of a particulate filter. The sulfur trap does not have a catalyst that is also in the particulate filter which absorbs and reduces NO<sub>x</sub>. Additionally, as discussed above, Maaseidvaag does not disclose such a catalytic apparatus. Accordingly, Dou and Maaseidvaag, individually or in combination, would not have rendered obvious the subject matter recited in claim 1, and claims 2-4 depending therefrom. Withdrawal of the rejection of claims 1-4 under 35 U.S.C. §103 is respectfully solicited.

For at least the reasons set forth above, Applicants respectfully submit that the application is in condition for allowance. Favorable consideration and prompt allowance of the claims are earnestly solicited.

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Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number set forth below.

Respectfully submitted,

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JAO:PT/sld

## Attachments:

Appendix  
Petition for Extension of Time

Date: September 4, 2002

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DEPOSIT ACCOUNT USE  
AUTHORIZATION  
Please grant any extension  
necessary for entry;  
Charge any fee due to our  
Deposit Account No. 15-0461

Docket No. 110108

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## APPENDIX

## Changes to Claims:

Claims 7 and 8 are added.

The following is a marked-up version of the amended claim 5:

5. (Twice Amended) A device for purifying the exhaust gas of an internal combustion engine comprising:
- a particulate filter arranged in the exhaust system, which carries an oxidation catalyst for absorbing NO<sub>x</sub> when the air-fuel ratio is lean and releasing NO<sub>x</sub> when the air-fuel ratio is stoichiometric or rich; and
  - a catalytic apparatus for purifying NO<sub>x</sub> arranged in the exhaust system upstream of said particulate filter, which carries said catalyst for absorbing and reducing NO<sub>x</sub>.